

GA
24486

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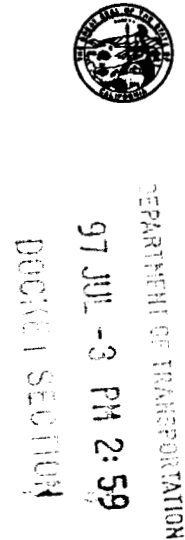
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Docket Clerk
U.S. DOT Dockets
Room PL-401
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Washington DC 20590-0001



SUBJECT: Comments on Development of Performance Measures for FHWA's Strategic Plan

Enclosed is a table showing performance measures and data needs for person movement and freight movement, that was developed for the California Department of Transportation's Intermodal Transportation Management System (ITMS). We are offering them as suggestions to assist in developing performance measures for the proposed FHWA Strategic Plan. For each measure, the formula to derive the measure, as well as modal data needed is shown.

Thank you for the opportunity to comment. Please keep us advised as the FHWA Strategic Plan and its performance measures is further developed.

Sincerely,

Richard A. Nordahl

RICHARD A. NORDAHL, Chief
Goods Movement Analysis Branch

Enclosures
LJohnson:LBj

5 pgs

ITMS PERFORMANCE INDICATORS (1 of 4)

Performance Measures and Data Needs

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PERSON MOVEMENT									
Performance Measure Group	Measure	Formula	Data Needed by Modal Source						
			Highway	Non-Motorized	Air	Rail	Water	Transit	
Mobility	Mobility Index	$PMT/MT \times$ Avg. Speed	Vehicles, distance, Speed, Occupancy	Vehicles, distance, Speed, Occupancy	Vehicles, distance, Speed, Occupancy	Vehicles, distance, Speed, Occupancy	Vehicles, distance, Speed, Occupancy	Vehicles, distance, Speed, Occupancy	
	Level of Service Link	Demand / Capacity	Highway demand, lanes	bike demand, #lanes	N/A	track v. #tracks	N/A	Passengers Seats	
Financial	Lost Time	Actual time - Theoretical time	Actual Speeds, Posted speeds	N/A	N/A	Free Flow travel time, actual travel time	N/A	Actual Speeds, Posted speeds	
	Cost to Service Provider	$\left(\frac{\text{Capital Costs} + \text{Useful Life}}{\text{Annual Operating}} \right) / \text{person miles}$	Maint., repair, liability, capital, operating, depreciation	Maint., repair, liability, capital, operating, depreciation	Fuel, Maint., repair, liability, capital, operating, depreciation	Fuel, Maint., repair, liability, capital, operating, depreciation	Fuel, Maint., repair, liability, capital, operating, depreciation	Fuel, Maint., repair, liability, capital, operating, depreciation	
Environmental	User costs	User costs / person miles	fuel, insurance, repairs, maint., capital, depreciation	Injuries, repairs, maint., capital, depreciation	Fares	Fares	Fares	Fares	
	Pollution	pollution / person miles	Pollutants, distance, persons	Pollutants, distance, persons	Pollutants, distance, persons	Pollutants, distance, persons	Pollutants, distance, persons	Pollutants, distance, persons	
	Green House Emissions	CO ₂ / person miles	CO ₂ / person miles	CO ₂ / person miles	CO ₂ / person miles	CO ₂ / person miles	CO ₂ / person miles	CO ₂ / person miles	
	Fuel consumption	fuel / person miles	fuel / person miles	fuel / person miles	fuel / person miles	fuel / person miles	fuel / person miles	fuel / person miles	

* N/A - Not Applicable

ITMS PERFORMANCE INDICATORS (2 of 4)

Performance Measures and Data Needs

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PERSON MOVEMENT					Data Needed by Modal Source				
Performance Measure Group	Measure	Formula	Highway	Non-Motorized	Air	Rail	Water	Transit	
Economic	Avg. Jobs supported per year	$\frac{\text{Capital Costs} + \text{Employment Useful Life}}{\text{Annual Operating Costs} + \text{Employment Costs}}$	operating expenditures, capital costs, useful life, employment multipliers	operating expenditures, capital costs, useful life, employment multipliers	operating expenditures, capital costs, useful life, employment multipliers	operating expenditures, capital costs, useful life, employment multipliers	operating expenditures, capital costs, useful life, employment multipliers	operating expenditures, capital costs, useful life, employment multipliers	
	GSP Impacts	$\frac{\text{Capital Costs} + \text{Employment Useful Life}}{\text{Annual Operating Costs} + \text{Employment Costs}}$	operating expenditures, capital costs, useful life, GSP multipliers	operating expenditures, capital costs, useful life, GSP multipliers	operating expenditures, capital costs, useful life, GSP multipliers	operating expenditures, capital costs, useful life, GSP multipliers	operating expenditures, capital costs, useful life, GSP multipliers	operating expenditures, capital costs, useful life, GSP multipliers	
	Cost of pollution, accidents, fatalities and lost time per person mile	$\frac{\text{Capital Costs} + \text{Employment Useful Life}}{\text{Annual Operating Costs} + \text{Employment Costs}}$	operating expenditures, capital costs, useful life, GSP multipliers	operating expenditures, capital costs, useful life, GSP multipliers	operating expenditures, capital costs, useful life, GSP multipliers	operating expenditures, capital costs, useful life, GSP multipliers	operating expenditures, capital costs, useful life, GSP multipliers	operating expenditures, capital costs, useful life, GSP multipliers	
Safety	Accidents at major intermodal crossings	Accidents / person mile	Avg wage; posted speed, actual speed, PMT, accidents, fatalities; cost/fatality & cost of air pollution, person miles	Avg wage; posted speed, actual speed, PMT, accidents, fatalities; cost/fatality & cost of air pollution, person miles	Avg wage; posted speed, actual speed, PMT, accidents, fatalities; cost/fatality & cost of air pollution, person miles	Avg wage; posted speed, actual speed, PMT, accidents, fatalities; cost/fatality & cost of air pollution, person miles	Avg wage; posted speed, actual speed, PMT, accidents, fatalities; cost/fatality & cost of air pollution, person miles	Avg wage; posted speed, actual speed, PMT, accidents, fatalities; cost/fatality & cost of air pollution, person miles	
	Accidents at major intermodal crossings	Accidents per person crossing	Accidents, person crossings	Accidents, person crossings	Accidents, person crossings	Accidents, person crossings	Accidents, person crossings	Accidents, person crossings	
Quality of Life	Availability		Frequency modal choice	Frequency modal choice	Frequency modal choice	Frequency modal choice	Frequency modal choice	Frequency modal choice	

* N/A - Not Applicable

ITMS PERFORMANCE INDICATORS (3 of 4)

Performance Measures and Data Needs

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FREIGHT MOVEMENT					Data Needed by Local Sources				
Performance Measure Group	Measure	Formula	Highway	Pipeline	Air	Rail	Water		
Mobility	Mobility Index	Ton Miles/VMT x Average Speed Container Equivalents / VMTx Average Speed	Volume, Ton Miles Speed, Containers	Volume, Ton Miles Speed, Containers	Volume, Ton Miles Speed, Containers	Volume, Ton Miles Speed, Containers	Volume, Ton Miles Speed, Containers		
	Lost Time	Actual time - Theoretical time	Actual Speeds, Posted speeds	N/A	N/A	Theoretical travel time, actual travel time	N/A		
	V/C Ratio	Demand / Capacity	Highway demand & capacity	N/A					
Financial	Cost to Service Providers	AEC / Ton mile	Basis, Depreciation, Interest, life expectancy, operating costs, capital costs, ton miles	Basis, Depreciation, Interest, life expectancy, operating costs, capital costs, ton miles	Basis, Depreciation, Interest, life expectancy, operating costs, capital costs, ton miles	Basis, Depreciation, Interest, life expectancy, operating costs, capital costs, ton miles	Basis, Depreciation, Interest, life expectancy, operating costs, capital costs, ton miles		
	User Cost	Average cost / Ton Mile	Fuel, operator, maintenance costs	Fuel, operator, maintenance costs	Fuel, operator, maintenance costs	Fuel, operator, maintenance costs	Fuel, operator, maintenance costs		
	Pollution	Pollution / ton mile	HC, CO, NOX, PM10, ton miles	HC, CO, NOX, PM10, ton miles	HC, CO, NOX, PM10, ton miles	HC, CO, NOX, PM10, ton miles	HC, CO, NOX, PM10, ton miles		
Environmental	Fuel Consumption	fuel consumed / ton mile	Fuel consumed, ton miles	Fuel consumed, ton miles	Fuel consumed, ton miles	Fuel consumed, ton miles	Fuel consumed, ton miles		
	Green House Emissions	CO ₂ / ton miles	CO ₂ / ton miles	CO ₂ / ton miles	CO ₂ / ton miles	CO ₂ / ton miles	CO ₂ / ton miles		

* Container Equivalents and/or TEU (Trailer Equivalent Units)

N/A - Not Applicable

ITMS PERFORMANCE INDICATORS (4 of 4)

Performance Measures and Data Needs

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FREIGHT MOVEMENT						
Performance Measure Group	Formula	Formula	Highway	Pipeline	Air	Rail
Data Needed by Model Sources						
Economic	Avg. Jobs supported per year	Capital Costs • Useful Life Annual Operating • Employment Costs Multiplier	operating expenditures, capital costs, useful life, employment multipliers	operating expenditures, capital costs, useful life, employment multipliers	operating expenditures, capital costs, useful life, employment multipliers	operating expenditures, capital costs, useful life, employment multipliers
GSP Impacts						
Cost of pollution, accidents, fatalities and lost time per ton mile			Avg wage; posted speed, actual speed, accidents, fatalities; cost/accident; cost/fatality & cost of air pollution, ton miles	Avg wage; posted speed, actual speed, accidents, fatalities; cost/accident; cost/fatality & cost of air pollution, ton miles	Avg wage; posted speed, actual speed, accidents, fatalities; cost/accident; cost/fatality & cost of air pollution, ton miles	Avg wage; posted speed, actual speed, accidents, fatalities; cost/accident; cost/fatality & cost of air pollution, ton miles
Safety	Accidents	Accidents / ton mile	Accidents, ton miles	Accidents, ton miles	Accidents, ton miles	Accidents, ton miles
Quality of Life	Availability	Frequency	Weight restrictions, height restrictions, width restrictions	N/A	Weight restrictions	Double-stack constraints, width restrictions
	Restrictions					N/A

* N/A - Not Applicable